

## CLAIMS

1. A data storage system comprising:  
a disk drive assembly including a plurality of disk drives;  
a first processor for controlling access to the disk drive assembly;  
a second processor for controlling access to the disk drive assembly;  
a first power supply for supplying power to the first processor and to the disk drive assembly; and  
a second power supply for supplying power to the second processor and to the disk drive assembly.

2. The data storage system of claim 1 wherein the first power supply and the second power supply each include a first voltage output, the data storage system further including a first bus coupled between the first voltage output of the first power source, the first voltage output of the second power source and at least a portion of the plurality of disk drives of the disk drive array.

3. The data storage system of claim 2 wherein the first power supply and the second power supply each include a second voltage output, the data storage system further including a second bus coupled between the second voltage output of the first power source, the second voltage output of the second power source and at least a portion of the plurality of disk drives of the disk drive array.

4. The data storage system of claim 3 wherein the first power supply and the second power supply each include a third voltage output, wherein the third voltage output of the first power supply supplies power to the first processor and the third voltage output of the second power supply supplies power to the second processor.

5. The data storage system of claim 1 wherein the first power supply and the second power supply each include a first voltage output, wherein the first voltage output of the first power supply supplies power to the first processor and the first voltage output of the second power supply supplies power to the second processor.

6. The data storage system of claim 5 wherein the first power supply and the second power supply each include a second voltage output, the data storage system further including a first bus coupled between the second voltage output of the first power source, the second voltage output of the second power source and at least a portion of the plurality of disk drives of the disk drive array.

7. The data storage system of claim 6 wherein the first power supply and the second power supply each include a third voltage output, the data storage system further including a second bus coupled between the third voltage output of the first power source, the third voltage output of the second power source and at least a portion of the plurality of disk drives of the disk drive array.

8. The data storage system of claim 1 further comprising a first circuit protection device coupled between the first power supply and the disk drive assembly.

9. The data storage system of claim 8 further comprising a second circuit protection device coupled between the second power supply and the disk drive assembly.

10. The data storage system of claim 9 wherein the first and second circuit protection devices comprise at least one of a power source fault protection device and a load fault protection device.

11. A data storage system comprising:  
a disk drive assembly including a plurality of disk drives;  
a first processor for controlling access to the disk drive assembly;  
a first power supply for supplying power to the first processor and to the disk drive assembly; and  
a second power supply for supplying power to the disk drive assembly;  
wherein the first power supply and the second power supply each include a first voltage output, the data storage system further including a first bus coupled between the first voltage output of the first power source, the first voltage output of the second power source and at least a portion of the plurality of disk drives of the disk drive array.

12. The data storage system of claim 11 further comprising a second processor for controlling access to the disk drive assembly, the second processor receiving power from the second power source.

13. The data storage system of claim 12 wherein the first power supply and the second power supply each include a second voltage output, the second voltage output of the first power supply being configured to supply power to the first processor and the second voltage output of the second power supply being configured to supply power to the second processor.

14. The data storage system of claim 13 wherein the first power supply and the second power supply each include a third voltage output, the data storage system further including a second bus coupled between the third voltage output of the first power source, the third voltage output

of the second power source and at least a portion of the plurality of disk drives of the disk drive array.

15. The data storage system of claim 13 further comprising a first circuit protection device coupled between the first power supply and the disk drive assembly.

16. The data storage system of claim 15 further comprising a second circuit protection device coupled between the second power supply and the disk drive assembly.

17. The data storage system of claim 16 wherein the first and second circuit protection devices comprise at least one of a power source fault protection device and a load fault protection device.

18. A redundant power supply system comprising:  
a circuit subsystem;  
a first device for controlling access to the circuit subsystem;  
a second device for controlling access to the circuit subsystem;  
a first power supply for supplying power to the first device and to the circuit subsystem; and  
a second power supply for supplying power to the second device and to the circuit subsystem.

19. The redundant power supply system of claim 18 wherein the first power supply and the second power supply each include a first voltage output, the redundant power supply system further including a first bus coupled between the first voltage output of the first power source, the first voltage output of the second power source and the circuit subsystem.

20. The redundant power supply system of claim 19 wherein the first power supply and the second power supply each include a second voltage output, the redundant power supply system further including a second bus coupled between the second voltage output of the first power source, the second voltage output of the second power source and the circuit subsystem.

21. The redundant power supply system of claim 20 wherein the first power supply and the second power supply each include a third voltage output, wherein the third voltage output of the first power supply supplies power to the first device and the third voltage output of the second power supply supplies power to the second device.

22. A method of supplying power to a disk drive system comprising:

A. supplying power from a first power supply to a disk drive assembly including a plurality of disk drives;

B. supplying power from the first power supply to a first processor which controls access to the disk drive assembly;

C. supplying power from a second power supply to the disk drive assembly; and

D. supplying power from the second power supply to a second processor which controls access to the disk drive assembly.

23. The method of claim 22 further comprising supplying power from a first voltage output of the first power supply and a first voltage output of the second power supply to the disk drive array over a first bus.

24. The method of claim 23 further comprising supplying power from a second voltage output of the first

power supply and a second voltage output of the second power supply to the disk drive array over a second bus.

25. The method of claim 24 further comprising supplying power from a third voltage output of the first power supply to the first processor and supplying power from a third voltage output of the second power supply to the second processor.

26. The method of claim 22 further comprising supplying power to the disk drive assembly with one of the first and second power supplies when the other of the first and second power supplies becomes disabled.

27. A data storage system comprising:  
a disk drive assembly including a plurality of disk drives;  
a first circuit subsystem;  
a second circuit subsystem;  
a first power supply for supplying power to the first circuit subsystem and to the disk drive assembly; and  
a second power supply for supplying power to the second circuit subsystem and to the disk drive assembly.

28. The data storage system of claim 27 wherein the first power supply and the second power supply each include a first voltage output, the data storage system further including a first bus coupled between the first voltage output of the first power source, the first voltage output of the second power source and at least a portion of the plurality of disk drives of the disk drive array.

29. The data storage system of claim 28 wherein the first power supply and the second power supply each include a second voltage output, the data storage system further including a second bus coupled between the second voltage

output of the first power source, the second voltage output of the second power source and at least a portion of the plurality of disk drives of the disk drive array.

30. The data storage system of claim 29 wherein the first power supply and the second power supply each include a third voltage output, wherein the third voltage output of the first power supply supplies power to the first circuit subsystem and the third voltage output of the second power supply supplies power to the second circuit subsystem.

31. The data storage system of claim 27 wherein the first power supply and the second power supply each include a first voltage output, wherein the first voltage output of the first power supply supplies power to the first circuit subsystem and the first voltage output of the second power supply supplies power to the second circuit subsystem.

32. The data storage system of claim 31 wherein the first power supply and the second power supply each include a second voltage output, the data storage system further including a first bus coupled between the second voltage output of the first power source, the second voltage output of the second power source and at least a portion of the plurality of disk drives of the disk drive array.

33. The data storage system of claim 32 wherein the first power supply and the second power supply each include a third voltage output, the data storage system further including a second bus coupled between the third voltage output of the first power source, the third voltage output of the second power source and at least a portion of the plurality of disk drives of the disk drive array.

34. The data storage system of claim 27 further comprising a first circuit protection device coupled between the first power supply and the disk drive assembly.

35. The data storage system of claim 34 further comprising a second circuit protection device coupled between the second power supply and the disk drive assembly.

36. The data storage system of claim 35 wherein the first and second circuit protection devices comprise at least one of a power source fault protection device and a load fault protection device.